

1           1.    A method of coating solder ball and wire bond  
2 bond pads comprising:  
3               masking said solder ball bond pads; and  
4               coating gold on said wire bond bond pads with  
5 said solder ball bond pads masked.

1           2.    The method of claim 1 including providing a  
2 different gold coating thickness on said solder ball bond  
3 pads and said wire bond bond pads.

1           3.    The method of claim 2 including providing a  
2 thicker gold coating on said wire bond bond pads than on  
3 said solder ball bond pads.

1           4.    The method of claim 3 including providing a gold  
2 coating, on said wire bond bond pads, having a thickness of  
3 about .5 microns and providing a solder ball bond pad gold  
4 coating of approximately .1 to .3 microns in thickness.

1           5.    The method of claim 1 including nickel coating  
2 said solder ball and said wire bond bond pads at the same  
3 time before coating said wire bond bond pads with gold.

1           6.    The method of claim 1 including coating said wire  
2 bond bond pads with a first gold coating and coating both

3 of said solder ball bond pads and said wire bond bond pads  
4 with a second gold coating.

1 7. The method of claim 6 wherein said second gold  
2 coating is thinner than said first gold coating.

1 8. The method of claim 1 including using an  
2 electroless plating technique to coat gold on said wire  
3 bond bond pads.

1 9. The method of claim 1 including forming a  
2 laminate structure having solder ball bond pads and wire  
3 bond bond pads on the same surface.

1 10. The method of claim 1 wherein said solder ball  
2 bond pads are gold coated in a single step.

1 11. The method of claim 10 including coating said  
2 solder ball bond pads and said wire bond bond pads while  
3 the other of said solder ball and wire bond bond pads is  
4 masked.

1 12. A method of coating two different types of bond  
2 pads on the same surface comprising:

3 masking off a first type of bond pad; and

4                   coating a metal on the second type of bond pad  
5   with said first type of bond pad being masked.

1           13.   The method of claim 12 including masking solder  
2   ball bond pads.

1           14.   The method of claim 13 including coating metal on  
2   wire bond bond pads.

1           15.   The method of claim 14 including coating gold on  
2   said wire bond bond pads.

1           16.   The method of claim 15 including unmasking said  
2   solder ball bond pads and coating a metal on both said wire  
3   bond bond pads and said solder ball bond pads.

1           17.   The method of claim 12 including providing  
2   different coating thicknesses on said first and second  
3   types of bond pads.

1           18.   The method of claim 12 including coating gold on  
2   said second type of bond pad.

1           19.   The method of claim 18 wherein said first type of  
2   bond pad is a solder ball bond pad and said second type of  
3   bond pad is a wire bond bond pad, coating gold on said wire

4 bond bond pad to a thickness of about .5 microns and  
5 coating gold on said solder ball bond pads to a thickness  
6 of about .1 to about .3 microns.

1 20. The method of claim 19 including nickel coating  
2 said first and second types of bond pads at the same time  
3 before coating said wire bond bond pads with said metal.

1 21. The method of claim 12 including coating both  
2 said first and second types of bond pads with said metal  
3 after coating said metal on said second type of bond pad.

1 22. The method of claim 12 including masking off said  
2 second type of bond pad and coating metal on said first  
3 type of bond pad.

1 23. A method of forming solder ball and wire bond  
2 bond pads comprising:  
3 forming a solder ball bond pad;  
4 coating gold over said solder ball bond pad;  
5 forming a wire bond bond pad; and  
6 coating gold over said wire bond bond pad to a  
7 thickness greater than said gold coating over said solder  
8 ball bond pad.

1           24. The method of claim 23 including masking said  
2 solder ball bond pad and coating gold on said wire bond  
3 bond pad with said solder ball bond pad masked.

1           25. The method of claim 24 including providing a gold  
2 coating on said wire bond bond pad having a thickness of  
3 about .5 microns.

1           26. The method of claim 23 including providing a gold  
2 coating on said solder ball bond pad of approximately .1 to  
3 .3 microns in thickness.

1           27. The method of claim 23 including coating said  
2 wire bond bond pads with a first gold coating and coating  
3 both of said solder ball and said wire bond bond pads with  
4 a second gold coating.

1           28. The method of claim 23 including coating said  
2 solder ball bond pad to a thickness of approximately .25  
3 microns.

1           29. A method of forming solder ball and wire bond  
2 bond pads comprising:  
3           masking said solder ball bond pad;  
4           coating gold over said wire bond bond pad;

5                   masking said wire bond bond pad; and  
6                   coating gold over said solder ball bond pad.

7  
8           30. The method of claim 29 including coating said  
9 wire bond bond pad with gold to a thickness greater than  
10 the gold coating over said solder ball bond pad.

1           31. A packaged integrated circuit device comprising:  
2           a plurality of gold coated solder ball bond pads;  
3           a plurality of gold coated wire bond bond pads;  
4   and  
5           the gold coating on said solder ball bond pads  
6 being thinner than the gold coating on said wire bond bond  
7 pads.

1           32. The device of claim 31 wherein the thickness of  
2 the gold on said solder ball bond pads is sufficiently low  
3 to reduce the likelihood of solder ball joint  
4 embrittlement.

1           33. The device of claim 31 wherein said solder ball  
2 bond pads have a gold coating having a thickness of between  
3 about .1 and .3 microns.

1           34. The device of claim 33 wherein said solder ball  
2 bond pad gold coating has a thickness of about .25 microns.

1           35. The device of claim 33 wherein said wire bond  
2 bond pads have a gold coating thickness of approximately .5  
3 microns.

1           36. The device of claim 31 wherein said solder ball  
2 bond pads and said wire bond bond pads are all contained on  
3 the same planar surface.